sion respond to plasmapheresis or prednisone therapy, with or without the additional features of a chronic inflammatory demyelinating polyneuropathy developing. The remaining patients with progression go on to have more confluent distal symptoms and signs typical of distal axonal polyneuropathy and do not respond to immunotherapies.

Progressive lumbosacral polyradiculopathy occurs predominantly in patients with AIDS. Progressive weakness, numbness, and pain of the legs develop subacutely along with impaired sphincter control. A CSF examination is the most important diagnostic test. In polyradiculopathy due to cytomegalovirus (CMV) infection, the CSF typically has a polymorphonuclear pleocytosis (0.5×10^6 per liter or greater), a low glucose level, and an elevated protein content. Ascending paralysis typically leads to death within two months, but early treatment of CMV polyradiculopathy with ganciclovir has been effective in at least some cases. In one patient with a positive CSF VDRL, antibiotic therapy was curative for a syphilitic polyradiculopathy. Other patients have presented with similar neurologic symptoms and signs but with a CSF that had fewer cells and from which CMV could not be cultured. Some of these patients have had lymphomatous cells on CSF cytologic examination, and these patients have died. Others with normal cytologic findings have shown either continued progression or spontaneous remission; the cause in these cases is unknown.

Thus, peripheral neuropathies are common in association with HIV infection, and each type suggests a particular diagnostic and treatment strategy.

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Diagnosing Heavy Metal Intoxication in Patients With Neurologic Signs

NERVOUS SYSTEM SIGNS are common in acute and chronic cases of heavy metal poisoning. These include peripheral neuropathy from lead, arsenic, organic and inorganic mercury, and thallium; mental retardation or dementia from organic and inorganic mercury and lead; psychosis from arsenic and inorganic mercury; encephalopathy with seizures from lead and arsenic; and visual disturbances or ataxia from organic mercury.

Most toxicology laboratories use atomic absorption spectroscopy to analyze specimens for heavy metals. This method can detect common heavy metals, is accurate and quantitative, and can be done on blood, urine, hair, or other tissues. The toxicology laboratory should be informed which heavy metals are suspected because the instrument must be adjusted for each element analyzed. The choice of specimens to submit depends on how recent the exposure was and the duration of the intoxication. In general, blood is the most useful specimen in acute intoxications (within three days), except for arsenic (where, because of arsenic's short half-life, urine is also helpful). For chronic intoxications (weeks to months), urine or hair provides the most useful information.

Care should be taken in collecting specimens to avoid environmental contamination. Whole blood is preferred over serum for heavy metal analysis because metals often accumulate within erythrocytes. The blood specimen should be collected in a heparinized, trace metal-free glass tube. A 24-hour urine specimen should be collected in an acid-washed container (the inside of a plastic or glass container is washed with a solution of 0.1 molar hydrochloric acid, rinsed with distilled water, and then dried). Hair can be used to detect chronic metal intoxications from arsenic and mercury. For the specimen, 50 to 100 strands of scalp hair are cut close to the scalp. The strands are oriented so that the bases of the hairs are together. The bundle of hair should then be cut into thirds and each group of hair strands separately placed into trace metal-free glass tubes that are labeled proximal, middle, or distal scalp hair. A metal measurement of all three specimens will provide an estimation of the duration of the exposure because hair grows about 1 cm per month. Differences in metal content in the three hair sections also decrease the likelihood that the metal accumulation occurred from external environmental contamination, such as from hair washing.

In interpreting heavy metal analyses, it is important to know the normal values from a particular toxicology laboratory. In general, levels that are consistent with significant heavy metal intoxication are at least twofold to threefold above the normal levels for a laboratory. If borderline levels of lead or another heavy metal occur in a patient thought to have chronic intoxication, a diagnostic challenge with calcium disodium ethylenediaminetetraacetate (EDTA) may be considered. In this situation, a baseline 24-hour urine specimen is collected. A second 24-hour urine collection is started and the adult patient is given EDTA, 1 gram in 250 ml of 5% glucose solution given intravenously over one hour. The EDTA dose is repeated 12 hours later. A pronounced increase in the heavy metal content in the second urine collection, usually threefold to fivefold over the baseline specimen, implies substantial exposure to the heavy metal with increased body burden.

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New Strategies in Stroke Treatment

THE INCIDENCE OF STROKE has decreased significantly in recent decades, due largely to a better management of risk factors such as hypertension. This improvement has not been matched by the results of treating acute stroke, which has been directed at restoring or amplifying altered perfusion and preventing the aggregation of formed elements of blood. Using aspirin reduces the incidence of stroke after a transient ischemic attack, ticlopidine hydrochloride use is under study, and other antiplatelet drugs have not been shown to be effective. Heparin and sodium warfarin administration reduces the incidence of cardiogenic emboli but is not beneficial in